

Having described the invention, the following is claimed:

1. A data acquisition system for monitoring of sensor data, comprising:
 - (a) a primary data acquisition circuit for receiving signals from at least a first sensing device, including:
 - first processing means for processing data received from said first sensing device, and
 - (b) a secondary data acquisition circuit for receiving data from at least a second sensing device, wherein said first sensing device and said second sensing device provide data indicative of a condition of the same operating parameter, said secondary data acquisition circuit including:
 - second processing means for processing data received from said second sensing device, and
 - an analog-to-digital conversion means for converting analog data to digital data, said secondary data acquisition circuit electrically connected with said primary data acquisition circuit.
2. A data acquisition system according to claim 1, wherein said operating parameter is selected from the group consisting of: a fluid temperature, a fluid pressure and a fluid volume.
3. A data acquisition system according to claim 1, wherein said fluid is selected from the group consisting of: water, a cleaning solution, and a disinfection solution.
4. A data acquisition system according to claim 1, wherein said first sensing device is a first temperature sensor, and said second sensing device is a second temperature sensor.
5. A data acquisition system according to claim 4, wherein said first and second temperature sensors are resistance temperature detectors.

6. A data acquisition system according to claim 1, wherein said first sensing device is a first pressure sensor, and said second sensing device is a second pressure sensor.
7. A data acquisition system according to claim 6, wherein each said first and second pressure sensors includes a pressure transducer.
8. A data acquisition system according to claim 1, wherein said first sensing device is an air pressure sensor, and said second sensing device is said air pressure sensor.
9. A data acquisition system according to claim 1, wherein said analog-to-digital conversion means receives analog sensor data from said second sensing device, and converts said analog sensor data to digital sensor data.
10. A data acquisition system according to claim 1, wherein said second processing means assembles parallel data associated with said second sensing device, said parallel data received by said primary data acquisition circuit.
11. A data acquisition system according to claim 10, wherein first processing means includes means for comparing said parallel data from said secondary data acquisition circuit to the data received from said first sensing device.
12. A data acquisition system according to claim 11, wherein said primary data acquisition circuit includes a watchdog timer.
13. A data acquisition system for monitoring of sensor data, comprising:
 - (a) a primary data acquisition circuit for receiving signals from a sensing device, including:
 - first processing means for processing data received from said sensing device, and

(b) a secondary data acquisition circuit for receiving data from said sensing device, wherein said sensing device provides data indicative of a condition of an operating parameter, said secondary data acquisition circuit including:

second processing means for processing data received from said sensing device, and

an analog-to-digital conversion means for converting analog data to digital data, said secondary data acquisition circuit electrically connected with said primary data acquisition circuit.

14. A data acquisition system according to claim 13, wherein said operating parameter is selected from the group consisting of: a fluid temperature, a fluid pressure and a fluid volume.

15. A data acquisition system according to claim 13, wherein said fluid is selected from the group consisting of: water, a cleaning solution, and a disinfection solution.

16. A data acquisition system according to claim 13, wherein said sensing device is selected from the group consisting of: an air pressure sensor, a fluid pressure sensor and a fluid volume sensor.

17. A data acquisition system according to claim 16, wherein said fluid pressure sensor is a pressure transducer.

18. A data acquisition system according to claim 16, wherein said air pressure sensor is a pressure transducer.

19. A data acquisition system according to claim 13, wherein said analog-to-digital conversion means receives analog sensor data from said sensing device, and converts said analog sensor data to digital sensor data.

20. A data acquisition system according to claim 13, wherein said second processing means assembles parallel data associated with said sensing device, said parallel data received by said primary data acquisition circuit.

21. A data acquisition system according to claim 20, wherein said first processing means includes means for comparing said parallel data from said secondary data acquisition circuit to the data received from said sensing device.